

# A Study of the Harbor Strategy in Colombo Port

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Tomoharu Ozawa

## Summary

Sri Lanka was colonized by Portugal, the Netherlands and Great Britain from the beginning of the 16<sup>th</sup> century, and was influenced by Europe. After World War II, racial problems between the Sinhala and Tamil people heated up, and continued until recent years. Meanwhile, Sri Lanka promoted a shift from social economy to free economy, and endeavored to develop complete equipment in harbor for trade between foreign countries. Colombo port, as the center port, aimed to become a hub in South Asia. New expansion and renewal projects are in progress. In this paper, harbor labor problems, promotion of privatization, and construction of a logistic park are pointed out as current subjects to be solved.

## Key word

*Sri Lanka, Colombo, Container freight, South harbour plan, Total logistics*

## 1. Preface

Sri Lanka was formerly called Ceylon, and Ceylon tea is its most famous product. Its area is about 66,000km<sup>2</sup>, a little wider than that of Kyushu (42,000km<sup>2</sup>, not including Okinawa). The capital is Sri Jayewardenepura Kotte, incorporating the name of former president, Jayewardene. The population is approximately 20.28 million (Mar.2012). Ethnic groups as percentage of total population are as follows: Sinhala; 72.9%, Tamil; 18.0%, Sri Lanka Moors; 8.0%.

Sri Lanka became Ceylon, the self-governed dominion of Great Britain, on Feb.4<sup>th</sup>1948. In 1951, whilst attending the San Francisco peace treaty conference, the financial minister J. R. Jayewardene (later president) delivered a speech quoting Buddha's message in which Sri Lanka declined to accept war reparations from Japan. Buddha's message is as follows: 'Hatred ceases not by hatred but by love.'

In 1952, Sri Lanka became the first country in the world to enter into diplomatic relations with Japan. Historically, Sri Lanka has a deep relationship with Japan and can be considered a pro-Japanese country. In 1972, at the same time of new constitution promulgation, the country shifted from self-government to republic status, and its name changed from Ceylon to Sri Lanka, which means 'brilliant island' in Pali language.

After this, racial problems between Sinhala and Tamil occurred. This problem originated from the 'treating Sinhala warmly policy' advanced by Bandaranaike, founder of the Sri Lanka Liberal party. Furthermore, in the constitution promulgated in 1972, policy<sup>(1)</sup> to hinder the minority Tamil race was executed. Tamil people organized 'Liberation Tiger of Tamil Ealam' (LTTE), and opposed Sinhala government. In 1983, civil war broke out and continued for 26 years until it was brought to an end in May 2009. After the ceasefire agreement in 2002, Japan arranged a peacemaking conference to contribute to the settlement of peace. On June 2003, Japan held the 'Tokyo Conference on Reconstruction and Development of Sri Lanka', with United States of America, Norway and EU.

As described above, Sri Lanka had big domestic problems. However, in the 1980s, Sri Lanka promoted a shift from social economy to free economy and endeavored to complete equipment in harbor for

international trade. Recently, Sri Lanka is endeavoring to develop the South harbor of Colombo port as a hub port in South Asia.

In this paper, the strategy of Colombo port and problems to be solved are detailed, according to site investigations, held on Mar.2010 and Mar.2013.

## **2. Economic Condition of Sri Lanka**

According to the 'Annual Report 2011' issued by Sri Lanka central bank, substantial GDP growth rate from 2006 to 2010 is 7.7%, 6.8%, 6.0%, 3.5%, 8.0% respectively. The total amount of GDP in 2010 was 5,604 billion Rupee (0.78Yen/ Rupee in 2010, about 4,371 billion Yen). Industry component based on GDP in 2010, primary sector of industry was 11.9% (1.1% in the case of Japan in 2008), secondary sector of industry 28.7% (*cf.* 23.9%), tertiary sector of industry 59.4% (*cf.* 75%). According to IMF data issued on Apr.2012, nominal GDP in 2011 is US\$59.1 billion (In the case of Japan, \$5,869.5 billion), in 2012, \$64.9 billion and an estimated \$99.0 billion in 2017. In the same data book, GDP per person in 2011 in Sri Lanka is US\$2,877 compared with \$45,920 in Japan. GDP in Sri Lanka is 1/16 to that of Japan.

In 2010, export totaled US\$8,626 million and import US\$13,451 million. In 1977, 79% of all exports were agricultural products but in 2010, 70.7% were industrial products, with the rate of agricultural products reduced to 26.7%.

Main export products in 2010 were primarily 'textile goods and clothes' (38.9% of export amount). Followed by 'tea' (16.7%), 'rubber products' (6.5%), 'jewelry' (4.7%), and, 'petroleum products' (3.1%). In the case of imports, 45% were 'middle goods', and 42% were 'consumption goods' in 1977. In 2010, 59.9% were 'middle goods', 20.5% were 'investment goods', and 18.4% were 'consumption goods'. Main import products in 2010 were



Notes: ○ marks the locations of the 8 world heritage sites in Sri Lanka.  
 Reprinted from page.76 in “The annual report of the academic society for Asian symbiosis” No.8, issued Apr.2012

Figure 1 Map of Sri Lanka

‘petroleum’ (22.6% of total imports), ‘textile goods and clothes’ (13.5%), ‘machinery and spare parts’ (10%), and ‘foods and beverages’ (9.8%)<sup>(2)</sup>.

### **3. Summary of transportation infrastructure development schedule in Sri Lanka**

Based on ‘Mahinda Chintana’ (Mahinda concept), the current president, Mahinda Rajapaksa, who was elected in 2005 (re-elected in Jan.2010), promised a 10 year national development plan in 2007 as part of his election pledge. In the plan, area gap correction policy is targeted, and economic growth for the poverty bracket has priority. Particularly in rural areas, where a great number of those who fall within the poverty bracket live, after 1983 and until the end of the civil war, large scale development did not take place. This plan aims to promote development in under-developed and devastated north and east areas, and bring about area gap correction in economy and daily life.

This paper touches on recent transportation infrastructure development in the southern region, where Colombo is located, as a research target<sup>(3)</sup>.

The railway was upgraded on the south seaside line, Colombo ~Galle ~ Matara. This upgrade plan is to improve operation speed up to 100km/h, increase transportation volume of both travelers and freight while reducing transportation costs. The renewal project between Galle~Matara finished in Dec.2010. In addition to this project, other projects are being planned. These include station building projects at Panadura, Kalutara, Galle, and Matara, and double line work between Kalutara South and Matara. A contract has been entered into with the China National Machinery Import and Export Corp. for south coastline development between Matara and Kataragama, under government loans from China.

Between Colombo and Matara, south highway construction is in progress. It is estimated to cost US\$609.45 million. This highway connects the south of Colombo with its suburb Kottawa and Godagama, a suburb of Matara. It is some 130kms in length. In Nov. 2011, a 95.3km 4 lane stretch of highway between Kottawa and Pinnaduwa, a suburb of Galle, began operation. The toll fee for automobiles is 400 Rupee and 2,000 Rupee for trailers. In the future, 2 traffic lanes will be extended between Matara and Hambantota. The Japanese company Kumagaigumi Co. Ltd. is participating in this expansion construction. There are further expansion plans. A 400km highway from Colombo to Anuradhapura and Jaffna via Katunayake, 100km between Colombo and Kandy. A highway between Bandaranaike international airport and Colombo city area is under construction will begin operation in Sep.2013.

To reduce traffic congestion in the Colombo city area, a loop line connecting the south highway and the airport road is making rapid progress. A highway between Kottawa and Kaduwela will be in operation from May 2013, and beyond in Jan.2015. The Japanese International Cooperation Agency is participating in these projects.



Notes: On Mar.12 in 2013, taken by author at Kottawa toll gate and running on highway

**Photo 1 Highway between Kottawa and Pinnaduwa**

Bandaranaike is the only international airport serving Sri Lanka. To relieve congestion, and to avoid insufficient capacity in the case of an increase in travelers, a second international airport with 800 ha is being built in Mattala, in Hambantota prefecture. It will open on Mar.18 2013. The new terminal has capacity for about 1 million travelers, and equipment for large aircraft. With regards to air freight transportation volume, 45,000 metric tons is expected. Connection with Hambantota port is planned. The main access road to Mattala airport is a 50m wide, 6 lane highway between Mattala and Kataragama via Lunugamvehera. The Sri Lankan government expects its number of users to increase steeply from 5 million in 2010, and proceeds with renewal and expansion work step by step. After completion, 9 million users per year can be accepted and 8 international airline routes will be put into service. Japan Airport Consultants Inc. has charge of project design and construction of the new terminal.

Regarding harbors, there is the opening of Hambantota port. Hambantota port was constructed with an investment of US\$360 million, with 85% of that investment coming from Export-Import Bank of the Republic of China, and 15% from the Sri Lanka Port Authority. The port has an approaching channel with a width of 210m, 17m sea depth, two 600m long general anchorages, one 310m long oil anchorage and one 120m anchorage for small ships, and will be capable for 100,000DWT big vessels. Hambantota port was developed as a commercial and industrial port, and is also expected to serve as a transshipment and fuel replenishing port. The first stage started on Jan.15 2008, and opened in Nov.2010. Construction is divided into four stages, and whole construction is estimated to take 15 years. In addition to the opening of Hambantota port itself, many facilities have been developed in the vicinity of the port such as an oil tank farm and large-scale swage



equipment. In particular, infrastructures for hotel, food, health and sightseeing have been improved and directly and indirectly, many employment opportunities have been generated.

#### **4. General Information about Sri Lankan Ports**

From the beginning of the 19<sup>th</sup> century, it was necessary for harbors to keep up with the speed of the growth of international trade. Colombo port was a very important port in Asian seas, ranking alongside Bombay, Calcutta, Rangoon, Singapore, and Hong Kong. Colombo port had a role as export base of cinnamon under the rule of the Netherlands from 1658-1796, and as export base of coffee under the rule of Great Britain from 1796 to 1948. Equipment, such as canal, road and railway were completed to connect the producing district and Colombo port. In 1890, Colombo port occupied 95% of export amount.

From 1848 to 1892, coffee was the most important good, and after that until 1921, tea, coconut oil and rubber were important. At that time, the most important import good was rice<sup>(4)</sup>.

Thus, from 1875 to 1912, Colombo completed its first stage of equipment.

In 1913, the Colombo Harbor Committee was founded with the purpose of modernizing all equipment. In 1954, Queen Elizabeth terminal started operation. 16 quays and warehouses were built. In 1958, a company was founded that took charge of transportation in the harbor, and the harbor operated as a business. In 1979, Sri Lanka Ports Authority (SLPA) was founded. Nowadays, SLPA manages and operates 6 important harbors in Sri Lanka, they are: Colombo, Galle, Trincomalee, Hambantota, Kankasanturai, and Oluvil. Among them, Colombo, Galle,

and Trincomalee are most important. According to 'Annual Report 2009' issued by the SLPA, the number of arriving ships was 4,114, 32 and 310 respectively. In the case of container freight, 100% of containers were handled in Colombo port. This means that harbor business in Sri Lanka depends on Colombo port. Galle port is used for shipping cement. Trincomalee is a natural port and is used for shipping coal, cement and its raw materials. Hambantota port began operation on Aug.15 2010, with the aid of China. It has a 17m deep sea berth and large size ships, such as oil tankers, can pull in there. Recently, it is used as the transshipment harbor for Hyundai automobiles to India. The special features of each port are shown in tables 1 and 2.

**Table 1 Special features of important ports in Sri Lanka (part 1)**

Harbor name	Colombo	Galle	Trincomalee
Operation Start	1900s	1900s	2002
Special features	The most important port, which can handle containers and bulk	Invites yachts, marine and cruise ships, while making good use of the surrounding environment	Foothold on East coast for commercial, heavy industry, eco-tourism and agriculture.
Equipment	Water area: 201.5ha Land area: 129.0ha 23 berths. Equipment for oil, cement. Tourist terminal. Equipped by Japanese ODA.	50 yachts can be moored. Investment: 125million Rupee Commercial and leisure. Assistant port for Colombo. Future development plan.	50,000 DWT Water area: 1,630ha Land area: 5,261ha 2 warehouses: 43,200ft <sup>2</sup> 5 berths (cement, oil) 954m long, 5-13m depth

Source: <http://www.slpa.lk> (accessed on Feb.13,2013), Colombo port pamphlet.

**Table 2 Special features of important ports in Sri Lanka (part 2)**

Harbor name	Hambantota	Kankasanturai Point Pedro	Oluvil
Operation Start	Nov.2010	-	Nov.2012
Special features	Industry and service use. Transshipment.	North foothold.	East commercial port and fishery.
Equipment	100,000 DWT Terminal: 600m length. Oil berth: 610m Depth: 17m 85% of total US\$361 million was invested by China government.	Aid of Indian government.	5,000 DWT Terminal Length: 330m Depth: 8m Water area: 10ha Fishery Length: 220m Depth: 3m Water area: 6ha Freezer, warehouse. 1 <sup>st</sup> stage: €46.1 million 2 <sup>nd</sup> stage: Denmark government loan

Source: <http://www.slpa.lk> (accessed on Feb.13,2013), and hearing at SLPA on Mar.8 and 9, 2013.

## **5. Current Situation of Colombo Port**

In this chapter, the current situation of Colombo port is described. This is the only terminal in Sri Lanka that has complete equipment.

### **(1) Pier equipment**

Colombo port was developed by Great Britain in the 1870s. It is located close to the East-West line, and became prosperous as a supply base of coal. The Baltic Fleet, which was famous in the Russo-Japanese War, was supplied water and coal in this terminal, and the information was sent to Japan. Many passenger boats stopped there, and famous Japanese people who had been to Europe visited.

In the middle of the 1960s, SLPA planned to make one of the quays in

Elizabeth terminal a deep one for large bulk carriers to be able come along side. However, after due consideration and in line with the world shifting towards containerization, SLPA changed direction, and decided to construct a container terminal (300m quay length, 12.8m depth, 3.2ha backyard) in 1966. It was in Dec.1973, when the first container ship, American APL, called at Colombo port. Colombo port didn't have a special quay for containers, so instead, containers were lifted up by gantry crane located on the ship's gangway, and transported by trailer. At that time, the monthly handling number was 200 TEU, but the number increased year by year, then in 1980, a terminal for containers was constructed. Since then, a master plan was decided on by SLPA and JICA. The first development plan from 1980 to 1990 is written in 'The Master Plan -1980'. Estimated numbers are as follows:

Container freight; 899 thousand tons (in 1983) to 2.398 million tons (in 1988)

Transshipment; 245 thousand tons (in 1983) to 408 thousand tons (in 1988)

Container terminal development had the highest priority. As a first step, Queen Elizabeth quay was elongated to 200m long by 1981, and the north pier, used for coal, was developed to a full standards quay (300m long, 12m depth) by 1987. In Mar.1983, the quay was elongated to 300m with 12m depth, and 2 gantry cranes and 4 transfer cranes were installed. Building for management was also built. Freight handling volume increased from 7.34 million tons (in 1985) to 11.47 million tons (in 1988) and containers increased from 220 thousand TEU (in 1985) to 630 thousand TEU (in 1988) in Colombo terminal. Then, 'The Revised Master Plan 1990-2001' was decided on. This plan emphasized developing the current Jaya container terminal and SAGT, to make

Colombo terminal a transshipment hub in South Asia in a short time<sup>(5)</sup>. There are two following plans about container terminal development. Those are South harbor plan (Oct.2001)<sup>(6)</sup> and a report written by JICA in Sep.1996<sup>(7)</sup>. According to the JICA report, South harbor can meet demand until 2015. But, after 2015, if demand grows rapidly, the necessity of new terminal development is identified. Those are the contents of 'Master Plan 2015' itself, and in it, at the north side of the current Unity terminal, a new terminal with 236 ha, 10 containers, 7 feeder berths is expected, and 7.7 million TEU is estimated.

Details about the container terminal as of Mar.2013 are shown in Table 3.

In the north pier, in 1985, the Jaya container terminal was constructed and started operation by SLPA. In addition to 4 berths with a land area of 45.5 ha, 1,292m length, 12-15m depth, 2 berths for feeder boats with 8-9m depth were constructed. 19 gantry cranes were installed. In the south pier, was the Queen Elizabeth quay which started operation in 1980 with a land area of 8.5ha, 425m length, 9.8-10.8 depth and 3 gantry cranes. With the worldwide current of private capital utilization, in Sep.1999, Queen Elizabeth quay was renewed by a consortium led by DP World with Maersk line, John Kweels, and SLPA. US\$240 million was invested for 30 years contract (BOT system), and in 2003, the renewal opened. In 2007, APM Terminals purchased interests. The terminal has 3 berths, with 940m length, 15m depth, and 10 gantry cranes installed. Operated by South Asia Gateway Terminals (Pvt.) Ltd. Many feeder boats plies between SAGT terminal and India, Arab states, Bangladesh, and African countries. SAGT has become a transshipment hub in the area. On the other hand, in 1998, Unity terminal with 3 berths, located 2km north from Jaya container terminal was developed and operated by SLPA. Land are is 1.53ha, 590m

length, 7.5-11m depth, and 3 gantry cranes installed.

Besides container terminal development in Colombo city area, there also exists an inland container depot operated by AAL Freeport Ltd<sup>(8)</sup>. This terminal is located 16km inland from Colombo port, with CFS (Container Freight Station: 2.2ha area), container yard (2,000 TEU), 4 reefer consents, and operates import-export containers from Colombo port. In addition, Ace Container Terminals (Pvt.) Ltd., Ace Containers

**Table 3 Special features of Colombo port container terminal**

	Jaya container terminal	SAGT	Unity container terminal
Volume (In 2012)	2.08 million TEU	1.87 million TEU	0.25 million TEU
Operation start	1985	2003 (1980)	1998
Terminal Operator	Sri Lanka Ports Authority	SouthAsia Gate-way Terminals(Pvt)Ltd	Sri Lanka Ports Authority
Container Berths	4 berths: 1,292m long, 12 - 15m depth. 2 berths for feeder: 350m long, 8 -9m depth.	3 berths: 940m long, 15m depth.	2 berths: 390m long, 7.5 - 11m depth. 1 berth for many Uses: 200m long, 9 - 11m depth.
Terminal Facilities	Total area: 45.5ha 53,990TEU Reefer consent:564 CFS 15,000m <sup>2</sup> (Attn) Gantry crane:19	Total area:20ha 28,000TEU Reefer consent:540 CFS7,430m <sup>2</sup> (Attn) Gantry crane:10	Total area:1.53ha 8,000TEU Reefer consent:12 Gantry crane:3
Business time	24Hrs for office, shipping and gate	Office : 8 - 17:30 on weekday. 24Hrs for shipping and gate	24Hrs for office, shipping and gate

Attn: Operated by SLPA.

Source: "Containerisation International Year Book 2012", "SRI LANKA PORTS AUTHORITY", Derived from pamphlet gotten on Mar.11 2013, and data gotten by accessing <http://www.slpa.lk> on Feb.13 2013.

Source: Reprinted by Shiplink International(pvt)Ltd “GUIDE TO SRI LANKAN PORTS & SHIPPING”





Notes : On Mar.13 2010 and Mar.10 2013, taken by author.

Photo 2 Jaya container terminal (left) and SAGT terminal (right)

## (2) Container Freight

In early days, the container handling number in Colombo port was 8,543 TEU (in 1978), 17,680 TEU (in 1979), 41,622 TEU (in 1980) and in 1995, passed 1 million TEU for the first time. In 2004, the number reached 2.2 million TEU, and in 2006, 3.08 million TEU, in 2007, 3.38 million TEU, in 2008, 3.69 million TEU, in 2009, 3.46 million TEU, in 2010, 4 million TEU. The latest number in 2011, is 4.26 million TEU, and ranked 31<sup>st</sup> in the world after Tokyo (4.55 million TEU), and higher than Yokohama port (3.08 million TEU). These numbers are derived from 'Containerization International Data'. According to the hearing from SLPA on Mar.8 2013, the number in 2012 is 4.2 million TEU, and transshipment rate increased from 7% in 1979 to 52% in 1985, and recently, to about 70%. 79% of transshipment is between India.

SLPA expects the number to increase from current 4.9 million to 7.8 million TEU by 2020<sup>(9)</sup>.

## 6. South harbor development plan

Colombo port, making use of geographical merit of central location



between Bengal bay and the Arabian Sea, had a role of transit base. However, shown in Table 4, recently adjacent ports also continue to develop. Colombo is scared by the growth of Jawaharlal Nehru port (India)<sup>(10)</sup> and Salalah port (Oman)<sup>(11)</sup>. Container ships, which have a capacity of more than 10,000 TEU are placed in order, and hub port selection by the global alliance of ocean-going vessel companies is severe.

If it cannot fight against the stream, Colombo port may lose the important role of container transportation.

At this point, SLPA and ADB (Asian Development Bank) settled on a grand development plan in Oct.2001. The Colombo south harbor (CSH) development plan has an area of 600ha, is located to the west of SAGT, and the mouth faces north, its shape like the Japanese character 「コ」, its inner 3 sides are berths. The length of each side is 1,200m, and 370m class ships can be moored. It has a depth of 18m, and intended to be capable of mooring up to 3 of the largest container ships that can pass through the Suez Canal (Suez max; 12,000 TEU). The development plan is divided into the three areas of south, east and west terminals. In 2010, construction of breakwater, public space, mooring facilities for small boats, and roads, started in advance. SLPA invested US\$375 million.

**Table 4 Container handling number in ports adjacent to Colombo port**

(Unit : TEU)

Rank	Port name	Country	2010	2009	10/09 Ratio
23	Jawaharlal Nehru	India	4,752,000	4,111,798	+15.6%
<b>28</b>	<b>Colombo</b>	<b>Sri Lanka</b>	<b>4,000,000</b>	<b>3,464,297</b>	<b>+15.5%</b>
32	Salalah	Oman	3,485,395	3,490,000	-0.1%
73	Chennai	India	1,522,068	1,216,438	+25.1%
78	Karachi	Pakistan	1,370,000	1,307,000	+4.8%
89	Mundra	India	1,148,854	862,074	+33.3%
118	Mohammad Bin Oasim	Pakistan	779,000	751,056	+3.7%
151	Kolkata	India	526,474	501,622	+5.0%
165	Tuticorin	India	467,752	439,948	+6.3%
188	Aden	Yemen	370,382	382,445	-3.1%

Source : "Containerisation International Year Book 2012"

As a first step, China Merchants Holdings (International) got a license of facility development in the south terminal, known as Colombo South Container Terminal (CST), in Aug.2011. At the same time, the Sri Lankan government agreed with joint concern Colombo International Container Terminal (CICT), investment ration of which is CMHI 55%, construction company 30%, and SLPA 15%, to develop and operate for 35 years. The total amount of the CST project exceeds US\$500 million. It has a depth of 18m and a 1,200m long quay capable of mooring large container ships of over 10,000 TEU, and a deposit area of 58ha. Annual handling capacity is expected to be more than 2.4 million TEU. It started in Dec.2011 and at the end of 2013, 2 berths will start operating and will be fully operational in April 2014.

East terminal development will start when the total handling number of current and south terminals exceeds 5 million TEU. The second stage

will start in April 2014. The total cost is estimated at US\$500 million. The east terminal will be constructed by SLPA, and operation will be entrusted to a private company.

Should this CSH project be realized in a timely fashion, 9 quays with a depth of 18m will be completed, capable of meeting the needs of a super large container ship era. The CSH project needs a great amount of investment, so if demand estimation proves wrong, SLPA will go into the red. Recently in the eastern Asia area, development speed in South Korea and China has been slowing down. If the ports in Oman, India and Malaysia are expanded, express supply and excessive competition may happen.



Notes: Taken by author on Mar. 9 2013.  
 Photo 3 South terminal construction in progress

## 7. Predominance of Colombo Port

Table 5 shows time and fuel costs of container ships with 4,000 containers to moor on their way from main route Europe-America to Colombo and adjacent ports, estimated by Drewry Shipping Consultants Ltd. This table shows that Colombo port has strength in cost competition.

According to the report of Ministry of Land, Infrastructure, Transport and Tourism, and Ocean Policy Research Foundation<sup>(12)</sup>, Jawaharlal

Nehru port, the largest port in India and most competitive with Sri Lanka has a depth of 11m. This depth is capable of accommodating up to 4,000 container ships. A plan to deepen by a further 2m is being discussed, however the maximum limit is estimated at 6,000 TEU.

Table 5 Test calculation of cost for main route ship to moor port

Estimated mainline vessel deviation costs (4,000 teu vessel)							
Port	Deviation time (days)*	Time in Port (days)	Vessel deviation time cost (\$)***	Fuel cost (\$)***	Port access charges (\$)	Cost of time in port (\$)	Total marginal cost (\$)
Chennai	1.10	1.00	24,750	18,480	28,000	22,500	93,730
Chittagong	2.25	1.00	50,625	37,800	20,000	22,500	130,925
Cochin	0.13	1.00	2,925	2,184	28,500	22,500	56,109
Colombo	0.06	1.00	1,350	1,008	10,000	22,500	34,858
Dubai	2.37	0.50	53,325	39,816	5,500	11,250	109,891
JNPT/NSICT	0.85	1.00	19,125	14,280	26,500	22,500	82,405
Karachi	1.33	1.00	29,925	22,344	20,000	22,500	94,769
Mundra	1.30	1.00	29,250	21,840	28,000	22,500	101,590
Tuticorin	0.09	1.00	2,025	1,512	33,500	22,500	59,537
<b>Notes:</b> All figures in US\$ * At 23 knots ** At US\$ 22,500/day for a 4,000 teu vessel *** At 120 tpd x US\$ 140/t Source: Drewry Shipping Consultants Ltd.							

Source: “Drewry Shipping Consultants Ltd /SACT”

## 8. Conclusion

In this final chapter, the problems Colombo port confronts to sustain continuous growth are described, based on having surveyed the site on two occasions.

### ① Labor problem in harbor

SLPA manages all ports in Sri Lanka, and all labor in port, guards and managers are formal staff. The total number of labor is 13,296 (in 2009). My suggestion is to keep white collar workers, who have

charge of planning and managing, as formal staff while other workers be dispatched from private companies.

②Promotion of privatization

There exist three container terminals. SAGT is the only one operated by a private company. Jaya container terminal operated by SLPA and Unity container terminal should be united and privatized for more efficient operation.

③Reinforcement of cooperation with India

Written above, Sri Lanka has no big industry, so the most important problem is how to bring in freight from remarkably progressing India. Not only transshipment, but also total logistics to support SCM (Supply Chain Management) for depository, distribution and processing facilities.

④Upbringing and reinforcement of 3PL company

According to the Pership group's hearing, almost all distribution companies in Sri Lanka have a single function, such as transportation, depository, distribution, and processing and information. 3PL (Third Party Logistics) company or company group to be capable of total logistics must be brought up and strengthened.

⑤Preparation of logistic park

Deep sea terminal preparation plan has the highest priority in the south harbor development plan currently in progress. But recently in developed countries in Europe and USA proceed with the preparation of logistic parks. It is very important for Colombo port to aim for a logistic business base to connect transshipment areas such as India, Pakistan and Bangladesh, and Euro-America and Asia. The harbor must be advanced as a space for value creation. According to an SLPA hearing, the Galle face area, a place of scenic beauty, will be reclaimed for an international business city.

That area is located just behind the south harbor area so I propose utilizing the area for logistic space also.

⑥Cooperation with big projects in the south area

Based on ‘ Mahinda Chintana’, national projects are progressing. The details of which are written in Chapter 3. In the future, logistics policy to connect highway, international airport, international port and railway must be planned. For example, I propose to form a total logistics base in the south area, to connect Bandaranaike international airport, Colombo port, Galle port, Hambantota port and Mattala international airport by both highway and high-speed rail.

⑦Cooperation with railway

Double line, broad gauge and high speed policies are planned in railway. Among those plans, a remarkable plan is to repair the railway between Anuradhapura, Jaffna and Mannar. These two lines were damaged during the conflict with LTTE. If revived, transportation to and from India will become more and more active, since Jaffna is a big city in the north area and has a ferry service to India.

The Japanese government and JICA contributed to the modernization of harbor development in the pro-Japanese country, Sri Lanka, and the containerization of Colombo port from the beginning of the 1980s. Through two site investigations afterwards, I have witnessed how the governments and companies of China and South Korea have advanced remarkably in expansion projects. It may be good to advance niche in partition, however I feel regret that the opportunity for Japanese government to play an active role is decreasing. Japanese government and companies must consider positive advance and investment in foreign areas.

Finally, I am deeply grateful to Mr. Megumu Horikawa (ex Yaskawa

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## Notes

- (1) New constitution, proclaimed in 1972, not only stated clearly that Sinhala language was the only official language, but also declared to give a special position to Buddhism, which a large majority of Sinhala people believed in. Furthermore, the second parliament, which monitored disadvantageous legislation for minorities, was abolished, and the article for minority protection, written in the new constitution established under Great Britain rule in 1947, was completely deleted.
- (2) References cited 2) and 3).
- (3) References cited 14). In addition, I could learn about the present situation from the SLPA, whom I visited during Mar.8-14, 2013.
- (4) References cited 4).
- (5) References cited 5).
- (6) References cited 1).
- (7) References cited 12).
- (8) This company is one of the subsidiary companies of Pership group, and has charge of logistic service in international transportation, warehouse management, inventory management, SCM through container terminal management, and consultation for logistics. This company supplies world class logistics and SCM. This information was gained by talking with Mr. Tiran De Sampayo (vice president of logistics company) on Mar.11 2013.
- (9) References cited 10). ADB & SLPA (2001), "Colombo Port south Harbor Development Project Feasibility Study Final Report" estimated 7.8 to 10 million TEU in 2020.
- (10) Jawaharlal Nehru terminal grew with economic growth in India, and operated by state-operated JNPCT, NSICT invested by DPWorld, GTICT invested by AP Moller. In south India, Cochin port, whose volume is not so large, (310 thousand TEU in 2010, and ranked 204 in the world) and Vallalupadamu terminal are under renewal. They aim to get transshipment freight handled in Colombo port to India. ("Harbor" Page 40-41, issued in Jan.2009 and "International Transportation Handbook 2013" Page 977-978,

issued in Dec.2012).

- (11)Salalah port opened in Nov. 1988, and is a transit port operated by Maersk-SeaLand. 99% of freight is for transit. Maersk-SeaLand partially changed its routes from Dubai and Colombo port to Salalah port. Free zone development is under progress. ("Harbor" Page 44-45, issued in Oct.2000)
- (12)References cited 7) and 9). Modern Indian terminal management policy started after the approval of 'Indian Ports Act of 1908' in 1908 and controlled by law. Main ports were under control of central government, and the others under each state. In 1963, 'Major Port Trust Act' prescribed that 11 main ports, except Ennore, were monitored and managed by government for self-supporting system through independent activity by Port Trust. Recently, a state-run company, which has stronger independence than Port Trust, progresses toward the Public Corporation shift. The National Maritime Development Programme, settled in Mar.2006, aims to promote private investment and strengthen competitiveness. Following Maritime Agenda 2010-2020 incorporates accomplishment of the highest level of harbor management efficiency, 14m depth in harbor and 17m depth in hub terminal.

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